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Mr. Gregory Rudloff  
United States Environmental Protection Agency (USEPA)  
Region 5  
77 W. Jackson Blvd. LU-9J  
Chicago, IL 60604

August 31, 2018

**Subject: Four-Month Post Interim Measures Indoor Air Analytical Data Submittal for the Former Dow Hanging Rock Site, Ironton, OH EPA ID# OHR 000 157 727 and OHD 039 128 913**

Dear Mr. Rudloff,

On behalf of The Dow Chemical Company, Jacobs, is submitting the 4-month post short-term interim measures completed indoor air sampling analytical results at Building 505, former Dow Hanging Rock site near Ironton, Ohio.

The detections from the 4-month post indoor air samples were less than the Ohio Environmental Protection Agency response guidance accelerated response and chronic response action levels and below the USEPA indoor air regional screening levels.

The indoor air sampling was conducted on August 15, 2018, within four months of the interim measures being completed on April 5, 2018. Nine indoor air samples, one duplicate, and one outside/ambient air sample were collected. The canisters were shipped to Alpha Analytical located in Mansfield, Massachusetts, and analyzed for PCE, TCE, 1,1-DCE, trans-1,2-DCE, cis-1,2-DCE, and vinyl chloride by USEPA Method TO-15 SIM. The 8-month post-sampling event will be conducted within 36 weeks of completing the interim measures, on or before December 13, 2018.

Attached are the laboratory analytical data package, the unvalidated data tabulated with previous results (Table 1), and a figure showing the data and sample locations within the building (Figure 1).

Please contact me at (513) 673-2201 or Mr. Timothy King at (304) 747-3763 should you have any questions or comments.

Sincerely,

Marie W. Chiller, Jacobs  
Site Manager

Attachments

cc: Timothy King/The Dow Chemical Company

Table 1. Building 505 September 2017, April 2018, May 2018, June 2018, and August 2018 Outdoor and Indoor Air Analytical Results<sup>a</sup> Vapor Intrusion Investigation Summary, Hanging Rock Site, Ironton, Ohio

Analyte		TETRACHLOROETHYLENE (PCE)	TRICHLOROETHYLENE (TCE)	CIS-1,2-DICHLOROETHYLENE	TRANS-1,2-DICHLOROETHENE	1,1-DICHLOROETHENE	VINYL CHLORIDE	
USEPA Indoor Air RSL <sup>b</sup>	175	9	NA	NA	876	28		
Ohio EPA Response Action Level <sup>c</sup>	180	8.8	NA	NA	NA	28		
Unit	ug/m <sup>3</sup>	ug/m <sup>3</sup>	ug/m <sup>3</sup>	ug/m <sup>3</sup>	ug/m <sup>3</sup>	ug/m <sup>3</sup>	ug/m <sup>3</sup>	
Sample Location	Sample ID	Date	Building 505					
Outdoor Air								
S01-HGR-OA01	S01-HGR-OA01-090817	9/8/17	<b>0.068 J</b>	0.107 U	0.079 U	0.079 U	0.018U	
S01-HGR-OA02	S01-HGR-OA02-041218	4/12/18	0.136 U	<b>0.107 U</b>	0.079 U	0.079 U	0.051 U	
S01-HGR-OA03	S01-HER-OA-050418	5/4/18	<b>0.156</b>	0.107 U	0.079 U	0.079 U	0.051 U	
S01-HGR-OA03	S01-HER-OA03-060418	6/4/18	0.136 U	0.107 U	0.079 U	0.079 U	0.051 U	
S01-HGR-OA03	S01-HER-OA03-081518	8/15/18	0.136 U	0.107 U	0.079 U	0.079 U	0.051 U	
Indoor Air								
IA06	S01-B505-IA06-090817	9/8/17	<b>326</b>	<b>1.04</b>	<b>0.079</b>	<b>0.024 J</b>	0.079 U	0.018U
	S01-B505-IA06-041218	4/12/18	<b>30.2</b>	<b>0.559</b>	<b>0.17</b>	0.079 U	0.079 U	0.051 U
	S01-B505-IA06-050418	5/4/18	<b>11.7</b>	<b>0.242</b>	<b>0.079</b>	0.079 U	0.079 U	0.051 U
	S01-B505-IA06-060418	6/4/18	<b>5.51</b>	<b>0.183</b>	<b>0.099</b>	0.079 U	0.079 U	0.051 U
	S01-B505-IA06-081518	8/15/18	<b>1.99</b>	<b>0.124</b>	0.079 U	0.079 U	0.079 U	0.051 U
IA07	S01-B505-IA07-090817	9/8/17	<b>220</b>	<b>0.451</b>	<b>0.06 J</b>	<b>0.024 J</b>	0.079 U	0.018U
	S01-B505-IA07-041218	4/12/18	<b>15.9</b>	<b>0.597</b>	<b>0.111</b>	0.079 U	0.079 U	0.051 U
	S01-B505-IA07-050418	5/4/18	<b>12.6</b>	<b>0.408</b>	<b>0.083</b>	0.079 U	0.079 U	0.051 U
	S01-B505-IA07-060418	6/4/18	<b>1.85</b>	0.107 U	0.079 U	0.079 U	0.079 U	0.051 U
	S01-B505-IA07-081518	8/15/18	<b>1.55</b>	<b>0.150</b>	0.079 U	0.079 U	0.079 U	0.051 U
IA08	S01-B505-IA08-090817	9/8/17	<b>197</b>	<b>0.403</b>	<b>0.052 J</b>	0.079 U	0.079 U	0.018U
	S01-B505-IA08-050418	5/4/18	<b>6.64</b>	<b>0.220</b>	0.079 U	0.079 U	0.079 U	0.051 U
	S01-B505-IA08-060418	6/4/18	<b>1.72</b>	0.107 U	0.079 U	0.079 U	0.079 U	0.051 U
	S01-B505-IA08-081518	8/15/18	<b>2.21</b>	<b>0.204</b>	0.079 U	0.079 U	0.079 U	0.051 U
IA09	S01-B505-IA09-090817	9/8/17	<b>268</b>	<b>0.543</b>	<b>0.067 J</b>	<b>0.028 J</b>	0.079 U	0.018U
	S01-HGR-090817-FD02	9/8/17	<b>262</b>	<b>0.527</b>	<b>0.071 J</b>	0.079 U	0.079 U	0.018U
	S01-B505-IA09-041218	4/12/18	<b>17.4</b>	<b>0.532</b>	<b>0.159</b>	0.079 U	0.079 U	0.051 U
	S01-B505-IA09-050418	5/4/18	<b>7.46</b>	<b>0.247</b>	<b>0.079</b>	0.079 U	0.079 U	0.051 U
	S01-B505-FD01-050418	5/4/18	<b>8.41</b>	<b>0.290</b>	0.079 U	0.079 U	0.079 U	0.051 U
	S01-B505-IA09-060418	6/4/18	<b>1.97</b>	0.107 U	0.079 U	0.079 U	0.079 U	0.051 U
	S01-B505-IAFD01-050420	6/4/18	<b>3.39</b>	<b>0.140</b>	0.079 U	0.079 U	0.079 U	0.051 U
	S01-B505-IA09-081518	8/15/18	<b>1.67</b>	<b>0.129</b>	0.079 U	0.079 U	0.079 U	0.051 U
IA10	S01-B505-IA10-090817	9/8/17	<b>324</b>	<b>1.00</b>	<b>0.099</b>	<b>0.024 J</b>	0.079 U	0.018U
	S01-B505-IA10-041218	4/12/18	<b>45.5</b>	<b>0.736</b>	<b>0.297</b>	0.079 U	0.079 U	0.051 U
	S01-B505-IA10-050418	5/4/18	<b>14.6</b>	<b>0.575</b>	<b>0.103</b>	0.079 U	0.079 U	0.051 U
	S01-B505-IA10-060418	6/4/18	<b>3.42</b>	<b>0.145</b>	0.079 U	0.079 U	0.079 U	0.051 U
	S01-B505-IA10-081518	8/15/18	<b>1.79</b>	<b>0.145</b>	0.079 U	0.079 U	0.079 U	0.051 U
IA11	S01-B505-IA11-041218	4/12/18	<b>30.6</b>	<b>0.376</b>	<b>0.297</b>	0.079 U	0.079 U	0.051 U
	S01-B505-IA11-050418	5/4/18	<b>9.56</b>	<b>0.220</b>	<b>0.095</b>	0.079 U	0.079 U	0.051 U
	S01-B505-IA11-060418	6/4/18	<b>3.40</b>	<b>0.118</b>	<b>0.083</b>	0.079 U	0.079 U	0.051 U
	S01-B505-IA11-081518	8/15/18	<b>1.59</b>	0.107 U	0.079 U	0.079 U	0.079 U	0.051 U
	S01-B505-FD01-081518	8/15/18	<b>1.64</b>	0.107 U	0.079 U	0.079 U	0.079 U	0.051 U
IA12	S01-B505-IA12-041218	4/12/18	<b>3.27</b>	<b>0.161</b>	0.079 U	0.079 U	0.079 U	0.051 U
	S01-B505-IA12-041218-FD01	4/12/18	<b>3.36</b>	<b>0.167</b>	0.079 U	0.079 U	0.079 U	0.051 U
	S01-B505-IA12-050418	5/4/18	<b>1.58</b>	0.107 U	0.079 U	0.079 U	0.079 U	0.051 U
	S01-B505-IA12-060418	6/4/18	<b>1.11</b>	0.107 U	0.079 U	0.079 U	0.079 U	0.051 U
	S01-B505-IA12-081518	8/15/18	<b>1.08</b>	<b>0.193</b>	0.079 U	0.079 U	0.079 U	0.051 U
IA13	S01-B505-IA13-050418	5/4/18	<b>19.0</b>	<b>0.177</b>	0.079 U	0.079 U	0.079 U	0.051 U
	S01-B505-IA13-060418	6/4/18	<b>15.2</b>	<b>0.333</b>	<b>0.309</b>	0.079 U	0.079 U	0.051 U
	S01-B505-IA13-081518	8/15/18	<b>12</b>	<b>0.242</b>	<b>0.091</b>	<b>0.131</b>	0.079 U	0.051 U
IA14	S01-B505-IA14-050418	5/4/18	<b>8.21</b>	<b>0.193</b>	<b>0.230</b>	0.079 U	0.079 U	0.051 U
	S01-B505-IA14-060418	6/4/18	<b>20.8</b>	<b>0.548</b>	<b>1.05</b>	0.079 U	0.079 U	0.051 U
	S01-B505-IA14-081518	8/15/18	<b>7.66</b>	<b>0.263</b>	<b>0.333</b>	0.079 U	0.079 U	0.051 U

Notes:

<sup>a</sup>: The August 2018 data are preliminary. This data has not yet been validated.

<sup>b</sup>: RSL is a risk-based screening level derived from the lowest of the cancer-based ( $TCR = 1 \times 10^{-5}$ ) or the noncancer-based ( $THQ = 1$ ) industrial indoor air Regional Screening Levels (RSLs) [EPA, 2018], which ever is

<sup>c</sup>: Ohio EPA response guidance provides an Accelerated Response Action Level for trichloroethylene (TCE) based on a  $THQ=1$  and Chronic Response Action Levels for tetrachloroethylene (PCE) and vinyl chloride (based on a  $THQ=1$  or  $TCR=1 \times 10^{-5}$ ). Source - Ohio EPA Guidance Document Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio (Ohio EPA, August 2016).

**Bold text indicates a detection**

Shading indicates a VISL exceedance

= - detected result

ug/m<sup>3</sup> - micrograms per cubic meter

J - estimated result

N/A - not applicable

TCR - target risk for carcinogens

THQ - target hazard quotient for non-carcinogens

U - not detected, reporting limit shown

VISL = vapor intrusion screening level

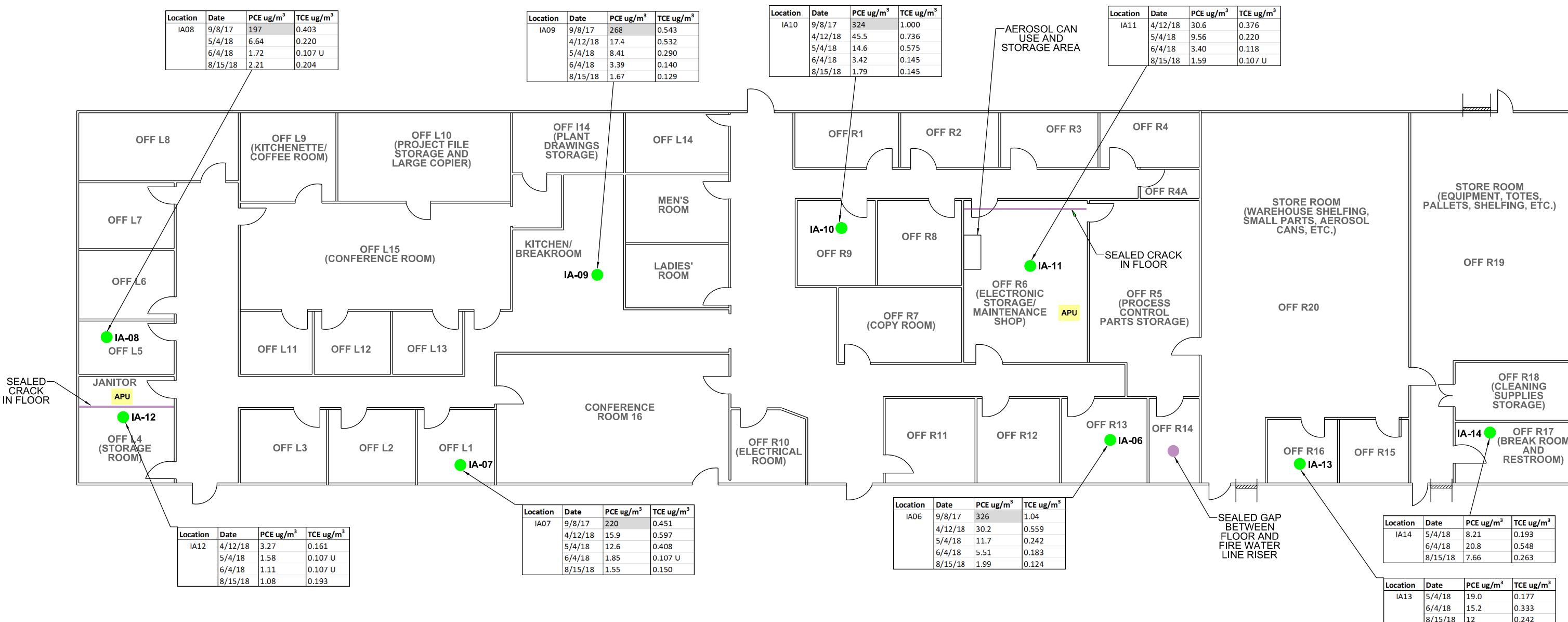
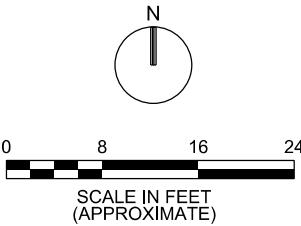


Figure 1  
**Building 505 Layout and PCE and TCE Indoor Sampling Air Results**  
 Hanging Rock Facility  
 Ironton, OH

JACOBS



## ANALYTICAL REPORT

Lab Number:	L1832614
Client:	CH2MHILL 1880 Way Cross Road Cincinnati, OH 45420
ATTN:	Marie Chiller
Phone:	(513) 673-2201
Project Name:	DOW HANGING ROCK
Project Number:	693874.CI.FD
Report Date:	08/28/18

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)

**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
**Report Date:** 08/28/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1832614-01	S01-B505-IA07-081518	AIR	IRONTON, OH	08/15/18 21:05	08/20/18
L1832614-02	S01-B505-IA12-081518	AIR	IRONTON, OH	08/15/18 21:06	08/20/18
L1832614-03	S01-B505-IA08-081518	AIR	IRONTON, OH	08/15/18 21:07	08/20/18
L1832614-04	S01-B505-IA09-081518	AIR	IRONTON, OH	08/15/18 21:13	08/20/18
L1832614-05	S01-B505-IA10-081518	AIR	IRONTON, OH	08/15/18 21:14	08/20/18
L1832614-06	S01-B505-IA11-081518	AIR	IRONTON, OH	08/15/18 21:16	08/20/18
L1832614-07	S01-B505-FD01-081518	AIR	IRONTON, OH	08/15/18 21:16	08/20/18
L1832614-08	S01-B505-IA06-081518	AIR	IRONTON, OH	08/15/18 21:18	08/20/18
L1832614-09	S01-B505-IA13-081518	AIR	IRONTON, OH	08/15/18 21:25	08/20/18
L1832614-10	S01-B505-IA14-081518	AIR	IRONTON, OH	08/15/18 21:26	08/20/18
L1832614-11	S01-HGR-OA03-081518	AIR	IRONTON, OH	08/15/18 21:31	08/20/18
L1832614-12	UNUSED CAN #2636	AIR	IRONTON, OH		08/20/18

**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
**Report Date:** 08/28/18

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
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**Case Narrative (continued)**

Volatile Organics in Air

Canisters were released from the laboratory on August 13, 2018. The canister certification results are provided as an addendum.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

*Christopher J. Anderson* Christopher J. Anderson

Title: Technical Director/Representative

Date: 08/28/18

**AIR**



**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
**Report Date:** 08/28/18

### SAMPLE RESULTS

Lab ID:	L1832614-01	Date Collected:	08/15/18 21:05
Client ID:	S01-B505-IA07-081518	Date Received:	08/20/18
Sample Location:	IRONTON, OH	Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 08/24/18 18:57  
Analyst: GJ

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Trichloroethene	0.028	0.020	--	0.150	0.107	--		1
Tetrachloroethene	0.228	0.020	--	1.55	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	95		60-140
bromochloromethane	97		60-140
chlorobenzene-d5	99		60-140

**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
**Report Date:** 08/28/18

### SAMPLE RESULTS

Lab ID:	L1832614-02	Date Collected:	08/15/18 21:06
Client ID:	S01-B505-IA12-081518	Date Received:	08/20/18
Sample Location:	IRONTON, OH	Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 08/24/18 19:35  
Analyst: GJ

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Trichloroethene	0.036	0.020	--	0.193	0.107	--		1
Tetrachloroethene	0.159	0.020	--	1.08	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	96		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	99		60-140

**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
**Report Date:** 08/28/18

### SAMPLE RESULTS

Lab ID:	L1832614-03	Date Collected:	08/15/18 21:07
Client ID:	S01-B505-IA08-081518	Date Received:	08/20/18
Sample Location:	IRONTON, OH	Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 08/24/18 20:14  
Analyst: GJ

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Trichloroethene	0.038	0.020	--	0.204	0.107	--		1
Tetrachloroethene	0.326	0.020	--	2.21	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	89		60-140
bromochloromethane	89		60-140
chlorobenzene-d5	90		60-140

**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
**Report Date:** 08/28/18

### SAMPLE RESULTS

Lab ID:	L1832614-04	Date Collected:	08/15/18 21:13
Client ID:	S01-B505-IA09-081518	Date Received:	08/20/18
Sample Location:	IRONTON, OH	Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 08/24/18 21:31  
Analyst: GJ

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Trichloroethene	0.024	0.020	--	0.129	0.107	--		1
Tetrachloroethene	0.246	0.020	--	1.67	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	88		60-140
bromochloromethane	90		60-140
chlorobenzene-d5	81		60-140

**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
**Report Date:** 08/28/18

### SAMPLE RESULTS

Lab ID:	L1832614-05	Date Collected:	08/15/18 21:14
Client ID:	S01-B505-IA10-081518	Date Received:	08/20/18
Sample Location:	IRONTON, OH	Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 08/24/18 22:10  
Analyst: GJ

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Trichloroethene	0.027	0.020	--	0.145	0.107	--		1
Tetrachloroethene	0.264	0.020	--	1.79	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	83		60-140
bromochloromethane	84		60-140
chlorobenzene-d5	79		60-140

**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
**Report Date:** 08/28/18

### SAMPLE RESULTS

Lab ID:	L1832614-06	Date Collected:	08/15/18 21:16
Client ID:	S01-B505-IA11-081518	Date Received:	08/20/18
Sample Location:	IRONTON, OH	Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 08/24/18 22:48  
Analyst: GJ

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	0.234	0.020	--	1.59	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	88		60-140
bromochloromethane	90		60-140
chlorobenzene-d5	89		60-140

**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
**Report Date:** 08/28/18

### SAMPLE RESULTS

Lab ID:	L1832614-07	Date Collected:	08/15/18 21:16
Client ID:	S01-B505-FD01-081518	Date Received:	08/20/18
Sample Location:	IRONTON, OH	Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 08/24/18 23:27  
Analyst: GJ

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	0.242	0.020	--	1.64	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	86		60-140
bromochloromethane	86		60-140
chlorobenzene-d5	86		60-140

**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
**Report Date:** 08/28/18

### SAMPLE RESULTS

Lab ID:	L1832614-08	Date Collected:	08/15/18 21:18
Client ID:	S01-B505-IA06-081518	Date Received:	08/20/18
Sample Location:	IRONTON, OH	Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 08/25/18 00:05  
Analyst: GJ

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Trichloroethene	0.023	0.020	--	0.124	0.107	--		1
Tetrachloroethene	0.293	0.020	--	1.99	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	90		60-140
bromochloromethane	91		60-140
chlorobenzene-d5	92		60-140

**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
**Report Date:** 08/28/18

### **SAMPLE RESULTS**

Lab ID:	L1832614-09	Date Collected:	08/15/18 21:25
Client ID:	S01-B505-IA13-081518	Date Received:	08/20/18
Sample Location:	IRONTON, OH	Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 08/25/18 00:44  
Analyst: GJ

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	0.033	0.020	--	0.131	0.079	--		1
cis-1,2-Dichloroethene	0.023	0.020	--	0.091	0.079	--		1
Trichloroethene	0.045	0.020	--	0.242	0.107	--		1
Tetrachloroethene	1.77	0.020	--	12.0	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	92		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	91		60-140

**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
**Report Date:** 08/28/18

### **SAMPLE RESULTS**

Lab ID:	L1832614-10	Date Collected:	08/15/18 21:26
Client ID:	S01-B505-IA14-081518	Date Received:	08/20/18
Sample Location:	IRONTON, OH	Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 08/25/18 01:22  
Analyst: GJ

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	0.084	0.020	--	0.333	0.079	--		1
Trichloroethene	0.049	0.020	--	0.263	0.107	--		1
Tetrachloroethene	1.13	0.020	--	7.66	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	93		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	95		60-140

**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
**Report Date:** 08/28/18

### SAMPLE RESULTS

Lab ID:	L1832614-11	Date Collected:	08/15/18 21:31
Client ID:	S01-HGR-OA03-081518	Date Received:	08/20/18
Sample Location:	IRONTON, OH	Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 08/24/18 18:18  
Analyst: GJ

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Vinyl chloride	ND	0.020	--	ND	0.051	--	1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--	1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	1
Trichloroethene	ND	0.020	--	ND	0.107	--	1
Tetrachloroethene	ND	0.020	--	ND	0.136	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	91		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	85		60-140

**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
**Report Date:** 08/28/18

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 48,TO-15-SIM  
Analytical Date: 08/24/18 16:17

Parameter	ppbV			ug/m3			Dilution Factor
	Results	RL	MDL	Results	RL	MDL	
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-11 Batch: WG1150378-4							
Vinyl chloride	ND	0.020	--	ND	0.051	--	1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--	1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	1
Trichloroethene	ND	0.020	--	ND	0.107	--	1
Tetrachloroethene	ND	0.020	--	ND	0.136	--	1



# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
**Report Date:** 08/28/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-11 Batch: WG1150378-3								
Vinyl chloride	71		-		70-130	-		25
1,1-Dichloroethene	88		-		70-130	-		25
trans-1,2-Dichloroethene	91		-		70-130	-		25
1,1-Dichloroethane	92		-		70-130	-		25
cis-1,2-Dichloroethene	94		-		70-130	-		25
1,2-Dichloroethane	119		-		70-130	-		25
1,1,1-Trichloroethane	96		-		70-130	-		25
Benzene	72		-		70-130	-		25
Trichloroethene	84		-		70-130	-		25
Tetrachloroethylene	90		-		70-130	-		25

**Lab Duplicate Analysis**  
Batch Quality Control

**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
**Report Date:** 08/28/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-11 QC Batch ID: WG1150378-5 QC Sample: L1832614-03 Client ID: S01-B505-IA08-081518						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
Trichloroethene	0.038	0.043	ppbV	12		25
Tetrachloroethene	0.326	0.343	ppbV	5		25

Project Name: DOW HANGING ROCK

Serial\_No:08281816:07

Project Number: 693874.CI.FD

Lab Number: L1832614

Report Date: 08/28/18

**Canister and Flow Controller Information**

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controller Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1832614-01	S01-B505-IA07-081518	0920	Flow 5	08/13/18	271875		-	-	-	Pass	10.0	9.5	5
L1832614-01	S01-B505-IA07-081518	2626	6.0L Can	08/13/18	271875	L1830985-05	Pass	-29.2	-9.5	-	-	-	-
L1832614-02	S01-B505-IA12-081518	0964	Flow 5	08/13/18	271875		-	-	-	Pass	10.0	10.2	2
L1832614-02	S01-B505-IA12-081518	2624	6.0L Can	08/13/18	271875	L1830985-03	Pass	-29.8	-8.4	-	-	-	-
L1832614-03	S01-B505-IA08-081518	0733	Flow 4	08/13/18	271875		-	-	-	Pass	10.0	11.1	10
L1832614-03	S01-B505-IA08-081518	2641	6.0L Can	08/13/18	271875	L1830985-09	Pass	-29.4	-7.6	-	-	-	-
L1832614-04	S01-B505-IA09-081518	01033	Flow 4	08/13/18	271875		-	-	-	Pass	10.0	10.4	4
L1832614-04	S01-B505-IA09-081518	2634	6.0L Can	08/13/18	271875	L1830985-10	Pass	-29.4	-10.6	-	-	-	-
L1832614-05	S01-B505-IA10-081518	0975	Flow 3	08/13/18	271875		-	-	-	Pass	10.0	9.5	5
L1832614-05	S01-B505-IA10-081518	2633	6.0L Can	08/13/18	271875	L1830985-13	Pass	-29.5	-10.2	-	-	-	-
L1832614-06	S01-B505-IA11-081518	0779	Flow 4	08/13/18	271875		-	-	-	Pass	10.0	9.4	6
L1832614-06	S01-B505-IA11-081518	2640	6.0L Can	08/13/18	271875	L1830985-02	Pass	-29.6	-9.9	-	-	-	-
L1832614-07	S01-B505-FD01-081518	0168	Flow 5	08/13/18	271875		-	-	-	Pass	10.0	9.1	9
L1832614-07	S01-B505-FD01-081518	2638	6.0L Can	08/13/18	271875	L1830985-04	Pass	-29.3	-8.6	-	-	-	-
L1832614-08	S01-B505-IA06-081518	0702	Flow 5	08/13/18	271875		-	-	-	Pass	10.0	9.9	1

**Project Name:** DOW HANGING ROCK

Serial\_No:08281816:07

**Project Number:** 693874.CI.FD**Lab Number:** L1832614**Report Date:** 08/28/18**Canister and Flow Controller Information**

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controller Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1832614-08	S01-B505-IA06-081518	2635	6.0L Can	08/13/18	271875	L1830985-11	Pass	-29.4	-10.1	-	-	-	-
L1832614-09	S01-B505-IA13-081518	0841	Flow 5	08/13/18	271875		-	-	-	Pass	10.0	9.3	7
L1832614-09	S01-B505-IA13-081518	2604	6.0L Can	08/13/18	271875	L1830985-15	Pass	-29.1	-7.9	-	-	-	-
L1832614-10	S01-B505-IA14-081518	0367	Flow 5	08/13/18	271875		-	-	-	Pass	10.0	9.4	6
L1832614-10	S01-B505-IA14-081518	2628	6.0L Can	08/13/18	271875	L1830985-06	Pass	-29.5	-9.5	-	-	-	-
L1832614-11	S01-HGR-OA03-081518	0543	Flow 5	08/13/18	271875		-	-	-	Pass	10.0	4.3	80
L1832614-11	S01-HGR-OA03-081518	2637	6.0L Can	08/13/18	271875	L1830985-07	Pass	-29.3	-10.9	-	-	-	-
L1832614-12	UNUSED CAN #2636	01034	Flow 4	08/13/18	271875		-	-	-	Pass	10.0	10.0	0
L1832614-12	UNUSED CAN #2636	2636	6.0L Can	08/13/18	271875	L1830985-12	Pass	-29.4	-29.5	-	-	-	-

**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-02	Date Collected:	08/08/18 08:00
Client ID:	CAN 2640 FC 0779	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix:	Air
Anaytical Method:	48,TO-15
Analytical Date:	08/09/18 17:15
Analyst:	MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>							
Chlorodifluoromethane	ND	0.200	--	0.707	--		1
Propylene	ND	0.500	--	0.861	--		1
Propane	ND	0.500	--	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.200	--	0.413	--		1
Freon-114	ND	0.200	--	1.40	--		1
Methanol	ND	5.00	--	6.55	--		1
Vinyl chloride	ND	0.200	--	0.511	--		1
1,3-Butadiene	ND	0.200	--	0.442	--		1
Butane	ND	0.200	--	0.475	--		1
Bromomethane	ND	0.200	--	0.777	--		1
Chloroethane	ND	0.200	--	0.528	--		1
Ethanol	ND	5.00	--	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	0.842	--		1
Vinyl bromide	ND	0.200	--	0.874	--		1
Acrolein	ND	0.500	--	1.15	--		1
Acetone	ND	1.00	--	2.38	--		1
Acetonitrile	ND	0.200	--	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	1.12	--		1
Isopropanol	ND	0.500	--	1.23	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
Pentane	ND	0.200	--	0.590	--		1
Ethyl ether	ND	0.200	--	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	0.793	--		1



**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-02 Date Collected: 08/08/18 08:00  
Client ID: CAN 2640 FC 0779 Date Received: 08/09/18  
Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-02 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2640 FC 0779 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-02 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2640 FC 0779 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-02 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2640 FC 0779 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Dilution Factor
	Results	RL	MDL	Results	RL	MDL	Qualifier
Volatile Organics in Air - Mansfield Lab							

	Results	Qualifier	Units	RDL	
--	---------	-----------	-------	-----	--

Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	109		60-140
Bromochloromethane	110		60-140
chlorobenzene-d5	109		60-140

**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-02	Date Collected:	08/08/18 08:00
Client ID:	CAN 2640 FC 0779	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix:	Air
Anaytical Method:	48,TO-15-SIM
Analytical Date:	08/09/18 17:15
Analyst:	MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.500	--	0.500	--		1
Freon-114	ND	0.050	--	0.349	--		1
Vinyl chloride	ND	0.020	--	0.051	--		1
1,3-Butadiene	ND	0.020	--	0.044	--		1
Bromomethane	ND	0.020	--	0.078	--		1
Chloroethane	ND	0.100	--	0.264	--		1
Acetone	ND	2.00	--	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	0.281	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	0.079	--		1
Methylene chloride	ND	0.500	--	1.74	--		1
Freon-113	ND	0.050	--	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	0.721	--		1
2-Butanone	ND	0.500	--	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
Chloroform	ND	0.020	--	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	0.109	--		1
Benzene	ND	0.100	--	0.319	--		1
Carbon tetrachloride	ND	0.020	--	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	0.092	--		1



**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-02 Date Collected: 08/08/18 08:00  
Client ID: CAN 2640 FC 0779 Date Received: 08/09/18  
Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Bromodichloromethane	ND	0.020	--	ND	0.134	--	1
1,4-Dioxane	ND	0.100	--	ND	0.360	--	1
Trichloroethene	ND	0.020	--	ND	0.107	--	1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--	1
Toluene	ND	0.050	--	ND	0.188	--	1
Dibromochloromethane	ND	0.020	--	ND	0.170	--	1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--	1
Tetrachloroethene	ND	0.020	--	ND	0.136	--	1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
Chlorobenzene	ND	0.100	--	ND	0.461	--	1
Ethylbenzene	ND	0.020	--	ND	0.087	--	1
p/m-Xylene	ND	0.040	--	ND	0.174	--	1
Bromoform	ND	0.020	--	ND	0.207	--	1
Styrene	ND	0.020	--	ND	0.085	--	1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
o-Xylene	ND	0.020	--	ND	0.087	--	1
Isopropylbenzene	ND	0.500	--	ND	0.983	--	1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
sec-Butylbenzene	ND	0.500	--	ND	1.10	--	1
p-Isopropyltoluene	ND	0.500	--	ND	1.10	--	1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-02 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2640 FC 0779 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
n-Butylbenzene	ND	0.500	--	ND	1.10	--	1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Naphthalene	ND	0.050	--	ND	0.262	--	1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	102		60-140
bromochloromethane	103		60-140
chlorobenzene-d5	104		60-140

**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-03	Date Collected:	08/08/18 08:00
Client ID:	CAN 2624 FC 0964	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
Analytical Method: 48,TO-15  
Analytical Date: 08/09/18 17:54  
Analyst: MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>							
Chlorodifluoromethane	ND	0.200	--	0.707	--		1
Propylene	ND	0.500	--	0.861	--		1
Propane	ND	0.500	--	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.200	--	0.413	--		1
Freon-114	ND	0.200	--	1.40	--		1
Methanol	ND	5.00	--	6.55	--		1
Vinyl chloride	ND	0.200	--	0.511	--		1
1,3-Butadiene	ND	0.200	--	0.442	--		1
Butane	ND	0.200	--	0.475	--		1
Bromomethane	ND	0.200	--	0.777	--		1
Chloroethane	ND	0.200	--	0.528	--		1
Ethanol	ND	5.00	--	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	0.842	--		1
Vinyl bromide	ND	0.200	--	0.874	--		1
Acrolein	ND	0.500	--	1.15	--		1
Acetone	ND	1.00	--	2.38	--		1
Acetonitrile	ND	0.200	--	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	1.12	--		1
Isopropanol	ND	0.500	--	1.23	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
Pentane	ND	0.200	--	0.590	--		1
Ethyl ether	ND	0.200	--	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	0.793	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-03 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2624 FC 0964 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-03 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2624 FC 0964 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

**Air Canister Certification Results**

Lab ID:	L1830985-03	Date Collected:	08/08/18 08:00
Client ID:	CAN 2624 FC 0964	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-03 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2624 FC 0964 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Dilution Factor
	Results	RL	MDL	Results	RL	MDL	Qualifier
Volatile Organics in Air - Mansfield Lab							

Tentatively Identified Compounds	Results	Qualifier	Units	RDL	Dilution Factor
	Internal Standard	% Recovery	Qualifier	Acceptance Criteria	
Silanol, Trimethyl-	1.3	NJ	ppbV		1
1,4-Difluorobenzene	113			60-140	
Bromochloromethane	114			60-140	
chlorobenzene-d5	110			60-140	

**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-03	Date Collected:	08/08/18 08:00
Client ID:	CAN 2624 FC 0964	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix:	Air
Anaytical Method:	48,TO-15-SIM
Analytical Date:	08/09/18 17:54
Analyst:	MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.500	--	0.500	--		1
Freon-114	ND	0.050	--	0.349	--		1
Vinyl chloride	ND	0.020	--	0.051	--		1
1,3-Butadiene	ND	0.020	--	0.044	--		1
Bromomethane	ND	0.020	--	0.078	--		1
Chloroethane	ND	0.100	--	0.264	--		1
Acetone	ND	2.00	--	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	0.281	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	0.079	--		1
Methylene chloride	ND	0.500	--	1.74	--		1
Freon-113	ND	0.050	--	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	0.721	--		1
2-Butanone	ND	0.500	--	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
Chloroform	ND	0.020	--	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	0.109	--		1
Benzene	ND	0.100	--	0.319	--		1
Carbon tetrachloride	ND	0.020	--	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	0.092	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

**Air Canister Certification Results**

Lab ID: L1830985-03 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2624 FC 0964 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	Results	RL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Bromodichloromethane	ND	0.020	--	ND	0.134	--	1
1,4-Dioxane	ND	0.100	--	ND	0.360	--	1
Trichloroethene	ND	0.020	--	ND	0.107	--	1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--	1
Toluene	ND	0.050	--	ND	0.188	--	1
Dibromochloromethane	ND	0.020	--	ND	0.170	--	1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--	1
Tetrachloroethene	ND	0.020	--	ND	0.136	--	1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
Chlorobenzene	ND	0.100	--	ND	0.461	--	1
Ethylbenzene	ND	0.020	--	ND	0.087	--	1
p/m-Xylene	ND	0.040	--	ND	0.174	--	1
Bromoform	ND	0.020	--	ND	0.207	--	1
Styrene	ND	0.020	--	ND	0.085	--	1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
o-Xylene	ND	0.020	--	ND	0.087	--	1
Isopropylbenzene	ND	0.500	--	ND	0.983	--	1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
sec-Butylbenzene	ND	0.500	--	ND	1.10	--	1
p-Isopropyltoluene	ND	0.500	--	ND	1.10	--	1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-03 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2624 FC 0964 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
n-Butylbenzene	ND	0.500	--	ND	1.10	--	1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Naphthalene	ND	0.050	--	ND	0.262	--	1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	104		60-140
bromochloromethane	106		60-140
chlorobenzene-d5	106		60-140

Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-04	Date Collected:	08/08/18 08:00
Client ID:	CAN 2638 FC 0168	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 08/09/18 18:32  
 Analyst: MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>							
Chlorodifluoromethane	ND	0.200	--	0.707	--		1
Propylene	ND	0.500	--	0.861	--		1
Propane	ND	0.500	--	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.200	--	0.413	--		1
Freon-114	ND	0.200	--	1.40	--		1
Methanol	ND	5.00	--	6.55	--		1
Vinyl chloride	ND	0.200	--	0.511	--		1
1,3-Butadiene	ND	0.200	--	0.442	--		1
Butane	ND	0.200	--	0.475	--		1
Bromomethane	ND	0.200	--	0.777	--		1
Chloroethane	ND	0.200	--	0.528	--		1
Ethanol	ND	5.00	--	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	0.842	--		1
Vinyl bromide	ND	0.200	--	0.874	--		1
Acrolein	ND	0.500	--	1.15	--		1
Acetone	ND	1.00	--	2.38	--		1
Acetonitrile	ND	0.200	--	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	1.12	--		1
Isopropanol	ND	0.500	--	1.23	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
Pentane	ND	0.200	--	0.590	--		1
Ethyl ether	ND	0.200	--	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	0.793	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-04 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2638 FC 0168 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-04 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2638 FC 0168 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-04 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2638 FC 0168 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-04 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2638 FC 0168 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Dilution Factor
	Results	RL	MDL	Results	RL	MDL	Qualifier
Volatile Organics in Air - Mansfield Lab							

	Results	Qualifier	Units	RDL	
--	---------	-----------	-------	-----	--

Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	111		60-140
Bromochloromethane	114		60-140
chlorobenzene-d5	110		60-140

**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-04	Date Collected:	08/08/18 08:00
Client ID:	CAN 2638 FC 0168	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 08/09/18 18:32  
Analyst: MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.500	--	0.500	--		1
Freon-114	ND	0.050	--	0.349	--		1
Vinyl chloride	ND	0.020	--	0.051	--		1
1,3-Butadiene	ND	0.020	--	0.044	--		1
Bromomethane	ND	0.020	--	0.078	--		1
Chloroethane	ND	0.100	--	0.264	--		1
Acetone	ND	2.00	--	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	0.281	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	0.079	--		1
Methylene chloride	ND	0.500	--	1.74	--		1
Freon-113	ND	0.050	--	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	0.721	--		1
2-Butanone	ND	0.500	--	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
Chloroform	ND	0.020	--	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	0.109	--		1
Benzene	0.120	0.100	--	0.383	0.319	--	1
Carbon tetrachloride	ND	0.020	--	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	0.092	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-04 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2638 FC 0168 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Bromodichloromethane	ND	0.020	--	ND	0.134	--	1
1,4-Dioxane	ND	0.100	--	ND	0.360	--	1
Trichloroethene	ND	0.020	--	ND	0.107	--	1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--	1
Toluene	ND	0.050	--	ND	0.188	--	1
Dibromochloromethane	ND	0.020	--	ND	0.170	--	1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--	1
Tetrachloroethene	ND	0.020	--	ND	0.136	--	1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
Chlorobenzene	ND	0.100	--	ND	0.461	--	1
Ethylbenzene	ND	0.020	--	ND	0.087	--	1
p/m-Xylene	ND	0.040	--	ND	0.174	--	1
Bromoform	ND	0.020	--	ND	0.207	--	1
Styrene	ND	0.020	--	ND	0.085	--	1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
o-Xylene	ND	0.020	--	ND	0.087	--	1
Isopropylbenzene	ND	0.500	--	ND	0.983	--	1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
sec-Butylbenzene	ND	0.500	--	ND	1.10	--	1
p-Isopropyltoluene	ND	0.500	--	ND	1.10	--	1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-04 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2638 FC 0168 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
n-Butylbenzene	ND	0.500	--	ND	1.10	--	1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Naphthalene	ND	0.050	--	ND	0.262	--	1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	104		60-140
bromochloromethane	106		60-140
chlorobenzene-d5	106		60-140

**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-05	Date Collected:	08/08/18 08:00
Client ID:	CAN 2626 FC 0920	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix:	Air
Anaytical Method:	48,TO-15
Analytical Date:	08/09/18 19:10
Analyst:	MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>							
Chlorodifluoromethane	ND	0.200	--	0.707	--		1
Propylene	ND	0.500	--	0.861	--		1
Propane	ND	0.500	--	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.200	--	0.413	--		1
Freon-114	ND	0.200	--	1.40	--		1
Methanol	ND	5.00	--	6.55	--		1
Vinyl chloride	ND	0.200	--	0.511	--		1
1,3-Butadiene	ND	0.200	--	0.442	--		1
Butane	ND	0.200	--	0.475	--		1
Bromomethane	ND	0.200	--	0.777	--		1
Chloroethane	ND	0.200	--	0.528	--		1
Ethanol	ND	5.00	--	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	0.842	--		1
Vinyl bromide	ND	0.200	--	0.874	--		1
Acrolein	ND	0.500	--	1.15	--		1
Acetone	ND	1.00	--	2.38	--		1
Acetonitrile	ND	0.200	--	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	1.12	--		1
Isopropanol	ND	0.500	--	1.23	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
Pentane	ND	0.200	--	0.590	--		1
Ethyl ether	ND	0.200	--	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	0.793	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-05 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2626 FC 0920 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1



**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-05	Date Collected:	08/08/18 08:00
Client ID:	CAN 2626 FC 0920	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

**Air Canister Certification Results**

Lab ID:	L1830985-05	Date Collected:	08/08/18 08:00
Client ID:	CAN 2626 FC 0920	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-05 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2626 FC 0920 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Dilution Factor
	Results	RL	MDL	Results	RL	MDL	Qualifier
Volatile Organics in Air - Mansfield Lab							

	Results	Qualifier	Units	RDL	
--	---------	-----------	-------	-----	--

Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	114		60-140
Bromochloromethane	116		60-140
chlorobenzene-d5	114		60-140

**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-05	Date Collected:	08/08/18 08:00
Client ID:	CAN 2626 FC 0920	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 08/09/18 19:10  
Analyst: MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.500	--	0.500	--		1
Freon-114	ND	0.050	--	0.349	--		1
Vinyl chloride	ND	0.020	--	0.051	--		1
1,3-Butadiene	ND	0.020	--	0.044	--		1
Bromomethane	ND	0.020	--	0.078	--		1
Chloroethane	ND	0.100	--	0.264	--		1
Acetone	ND	2.00	--	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	0.281	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	0.079	--		1
Methylene chloride	ND	0.500	--	1.74	--		1
Freon-113	ND	0.050	--	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	0.721	--		1
2-Butanone	ND	0.500	--	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
Chloroform	ND	0.020	--	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	0.109	--		1
Benzene	ND	0.100	--	0.319	--		1
Carbon tetrachloride	ND	0.020	--	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	0.092	--		1



**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-05 Date Collected: 08/08/18 08:00  
Client ID: CAN 2626 FC 0920 Date Received: 08/09/18  
Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Bromodichloromethane	ND	0.020	--	ND	0.134	--	1
1,4-Dioxane	ND	0.100	--	ND	0.360	--	1
Trichloroethene	ND	0.020	--	ND	0.107	--	1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--	1
Toluene	ND	0.050	--	ND	0.188	--	1
Dibromochloromethane	ND	0.020	--	ND	0.170	--	1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--	1
Tetrachloroethene	ND	0.020	--	ND	0.136	--	1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
Chlorobenzene	ND	0.100	--	ND	0.461	--	1
Ethylbenzene	ND	0.020	--	ND	0.087	--	1
p/m-Xylene	ND	0.040	--	ND	0.174	--	1
Bromoform	ND	0.020	--	ND	0.207	--	1
Styrene	ND	0.020	--	ND	0.085	--	1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
o-Xylene	ND	0.020	--	ND	0.087	--	1
Isopropylbenzene	ND	0.500	--	ND	0.983	--	1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
sec-Butylbenzene	ND	0.500	--	ND	1.10	--	1
p-Isopropyltoluene	ND	0.500	--	ND	1.10	--	1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-05 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2626 FC 0920 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
n-Butylbenzene	ND	0.500	--	ND	1.10	--	1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Naphthalene	ND	0.050	--	ND	0.262	--	1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	106		60-140
bromochloromethane	108		60-140
chlorobenzene-d5	109		60-140

**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-06	Date Collected:	08/08/18 08:00
Client ID:	CAN 2628 FC 0367	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix:	Air
Anaytical Method:	48,TO-15
Analytical Date:	08/09/18 19:48
Analyst:	MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>							
Chlorodifluoromethane	ND	0.200	--	0.707	--		1
Propylene	ND	0.500	--	0.861	--		1
Propane	ND	0.500	--	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.200	--	0.413	--		1
Freon-114	ND	0.200	--	1.40	--		1
Methanol	ND	5.00	--	6.55	--		1
Vinyl chloride	ND	0.200	--	0.511	--		1
1,3-Butadiene	ND	0.200	--	0.442	--		1
Butane	ND	0.200	--	0.475	--		1
Bromomethane	ND	0.200	--	0.777	--		1
Chloroethane	ND	0.200	--	0.528	--		1
Ethanol	ND	5.00	--	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	0.842	--		1
Vinyl bromide	ND	0.200	--	0.874	--		1
Acrolein	ND	0.500	--	1.15	--		1
Acetone	ND	1.00	--	2.38	--		1
Acetonitrile	ND	0.200	--	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	1.12	--		1
Isopropanol	ND	0.500	--	1.23	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
Pentane	ND	0.200	--	0.590	--		1
Ethyl ether	ND	0.200	--	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	0.793	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-06 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2628 FC 0367 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-06 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2628 FC 0367 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

**Air Canister Certification Results**

Lab ID:	L1830985-06	Date Collected:	08/08/18 08:00
Client ID:	CAN 2628 FC 0367	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-06 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2628 FC 0367 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Dilution Factor
	Results	RL	MDL	Results	RL	MDL	Qualifier
Volatile Organics in Air - Mansfield Lab							

	Results	Qualifier	Units	RDL	
--	---------	-----------	-------	-----	--

Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	112		60-140
Bromochloromethane	113		60-140
chlorobenzene-d5	111		60-140

**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-06	Date Collected:	08/08/18 08:00
Client ID:	CAN 2628 FC 0367	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix:	Air
Anaytical Method:	48,TO-15-SIM
Analytical Date:	08/09/18 19:48
Analyst:	MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.500	--	0.500	--		1
Freon-114	ND	0.050	--	0.349	--		1
Vinyl chloride	ND	0.020	--	0.051	--		1
1,3-Butadiene	ND	0.020	--	0.044	--		1
Bromomethane	ND	0.020	--	0.078	--		1
Chloroethane	ND	0.100	--	0.264	--		1
Acetone	ND	2.00	--	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	0.281	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	0.079	--		1
Methylene chloride	ND	0.500	--	1.74	--		1
Freon-113	ND	0.050	--	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	0.721	--		1
2-Butanone	ND	0.500	--	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
Chloroform	ND	0.020	--	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	0.109	--		1
Benzene	ND	0.100	--	0.319	--		1
Carbon tetrachloride	ND	0.020	--	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	0.092	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-06 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2628 FC 0367 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Bromodichloromethane	ND	0.020	--	ND	0.134	--	1
1,4-Dioxane	ND	0.100	--	ND	0.360	--	1
Trichloroethene	ND	0.020	--	ND	0.107	--	1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--	1
Toluene	ND	0.050	--	ND	0.188	--	1
Dibromochloromethane	ND	0.020	--	ND	0.170	--	1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--	1
Tetrachloroethene	ND	0.020	--	ND	0.136	--	1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
Chlorobenzene	ND	0.100	--	ND	0.461	--	1
Ethylbenzene	ND	0.020	--	ND	0.087	--	1
p/m-Xylene	ND	0.040	--	ND	0.174	--	1
Bromoform	ND	0.020	--	ND	0.207	--	1
Styrene	ND	0.020	--	ND	0.085	--	1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
o-Xylene	ND	0.020	--	ND	0.087	--	1
Isopropylbenzene	ND	0.500	--	ND	0.983	--	1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
sec-Butylbenzene	ND	0.500	--	ND	1.10	--	1
p-Isopropyltoluene	ND	0.500	--	ND	1.10	--	1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-06 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2628 FC 0367 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
n-Butylbenzene	ND	0.500	--	ND	1.10	--	1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Naphthalene	ND	0.050	--	ND	0.262	--	1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	104		60-140
bromochloromethane	106		60-140
chlorobenzene-d5	106		60-140

**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-07	Date Collected:	08/08/18 08:00
Client ID:	CAN 2637 FC 0543	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix:	Air
Anaytical Method:	48,TO-15
Analytical Date:	08/09/18 20:27
Analyst:	MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>							
Chlorodifluoromethane	ND	0.200	--	0.707	--		1
Propylene	ND	0.500	--	0.861	--		1
Propane	ND	0.500	--	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.200	--	0.413	--		1
Freon-114	ND	0.200	--	1.40	--		1
Methanol	ND	5.00	--	6.55	--		1
Vinyl chloride	ND	0.200	--	0.511	--		1
1,3-Butadiene	ND	0.200	--	0.442	--		1
Butane	ND	0.200	--	0.475	--		1
Bromomethane	ND	0.200	--	0.777	--		1
Chloroethane	ND	0.200	--	0.528	--		1
Ethanol	ND	5.00	--	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	0.842	--		1
Vinyl bromide	ND	0.200	--	0.874	--		1
Acrolein	ND	0.500	--	1.15	--		1
Acetone	ND	1.00	--	2.38	--		1
Acetonitrile	ND	0.200	--	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	1.12	--		1
Isopropanol	ND	0.500	--	1.23	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
Pentane	ND	0.200	--	0.590	--		1
Ethyl ether	ND	0.200	--	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	0.793	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-07 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2637 FC 0543 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1



**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-07	Date Collected:	08/08/18 08:00
Client ID:	CAN 2637 FC 0543	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-07 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2637 FC 0543 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-07 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2637 FC 0543 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Dilution Factor
	Results	RL	MDL	Results	RL	MDL	Qualifier
Volatile Organics in Air - Mansfield Lab							

	Results	Qualifier	Units	RDL	
--	---------	-----------	-------	-----	--

Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	113		60-140
Bromochloromethane	115		60-140
chlorobenzene-d5	113		60-140

Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

**Air Canister Certification Results**

Lab ID:	L1830985-07	Date Collected:	08/08/18 08:00
Client ID:	CAN 2637 FC 0543	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix:	Air
Anaytical Method:	48,TO-15-SIM
Analytical Date:	08/09/18 20:27
Analyst:	MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.500	--	0.500	--		1
Freon-114	ND	0.050	--	0.349	--		1
Vinyl chloride	ND	0.020	--	0.051	--		1
1,3-Butadiene	ND	0.020	--	0.044	--		1
Bromomethane	ND	0.020	--	0.078	--		1
Chloroethane	ND	0.100	--	0.264	--		1
Acetone	ND	2.00	--	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	0.281	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	0.079	--		1
Methylene chloride	ND	0.500	--	1.74	--		1
Freon-113	ND	0.050	--	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	0.721	--		1
2-Butanone	ND	0.500	--	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
Chloroform	ND	0.020	--	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	0.109	--		1
Benzene	ND	0.100	--	0.319	--		1
Carbon tetrachloride	ND	0.020	--	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	0.092	--		1



**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-07 Date Collected: 08/08/18 08:00  
Client ID: CAN 2637 FC 0543 Date Received: 08/09/18  
Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Bromodichloromethane	ND	0.020	--	ND	0.134	--	1
1,4-Dioxane	ND	0.100	--	ND	0.360	--	1
Trichloroethene	ND	0.020	--	ND	0.107	--	1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--	1
Toluene	ND	0.050	--	ND	0.188	--	1
Dibromochloromethane	ND	0.020	--	ND	0.170	--	1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--	1
Tetrachloroethene	ND	0.020	--	ND	0.136	--	1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
Chlorobenzene	ND	0.100	--	ND	0.461	--	1
Ethylbenzene	ND	0.020	--	ND	0.087	--	1
p/m-Xylene	ND	0.040	--	ND	0.174	--	1
Bromoform	ND	0.020	--	ND	0.207	--	1
Styrene	ND	0.020	--	ND	0.085	--	1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
o-Xylene	ND	0.020	--	ND	0.087	--	1
Isopropylbenzene	ND	0.500	--	ND	0.983	--	1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
sec-Butylbenzene	ND	0.500	--	ND	1.10	--	1
p-Isopropyltoluene	ND	0.500	--	ND	1.10	--	1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-07 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2637 FC 0543 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
n-Butylbenzene	ND	0.500	--	ND	1.10	--	1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Naphthalene	ND	0.050	--	ND	0.262	--	1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	105		60-140
bromochloromethane	107		60-140
chlorobenzene-d5	108		60-140

Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

**Air Canister Certification Results**

Lab ID:	L1830985-09	Date Collected:	08/08/18 08:00
Client ID:	CAN 2641 FC 0733	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix:	Air
Anaytical Method:	48,TO-15
Analytical Date:	08/09/18 21:43
Analyst:	MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>							
Chlorodifluoromethane	ND	0.200	--	0.707	--		1
Propylene	ND	0.500	--	0.861	--		1
Propane	ND	0.500	--	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.200	--	0.413	--		1
Freon-114	ND	0.200	--	1.40	--		1
Methanol	ND	5.00	--	6.55	--		1
Vinyl chloride	ND	0.200	--	0.511	--		1
1,3-Butadiene	ND	0.200	--	0.442	--		1
Butane	ND	0.200	--	0.475	--		1
Bromomethane	ND	0.200	--	0.777	--		1
Chloroethane	ND	0.200	--	0.528	--		1
Ethanol	ND	5.00	--	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	0.842	--		1
Vinyl bromide	ND	0.200	--	0.874	--		1
Acrolein	ND	0.500	--	1.15	--		1
Acetone	ND	1.00	--	2.38	--		1
Acetonitrile	ND	0.200	--	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	1.12	--		1
Isopropanol	ND	0.500	--	1.23	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
Pentane	ND	0.200	--	0.590	--		1
Ethyl ether	ND	0.200	--	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	0.793	--		1



**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-09 Date Collected: 08/08/18 08:00  
Client ID: CAN 2641 FC 0733 Date Received: 08/09/18  
Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-09 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2641 FC 0733 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-09 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2641 FC 0733 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-09 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2641 FC 0733 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Dilution Factor
	Results	RL	MDL	Results	RL	MDL	Qualifier
Volatile Organics in Air - Mansfield Lab							

	Results	Qualifier	Units	RDL	
--	---------	-----------	-------	-----	--

Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	115		60-140
Bromochloromethane	117		60-140
chlorobenzene-d5	113		60-140

**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-09	Date Collected:	08/08/18 08:00
Client ID:	CAN 2641 FC 0733	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix:	Air
Anaytical Method:	48,TO-15-SIM
Analytical Date:	08/09/18 21:43
Analyst:	MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.500	--	0.500	--		1
Freon-114	ND	0.050	--	0.349	--		1
Vinyl chloride	ND	0.020	--	0.051	--		1
1,3-Butadiene	ND	0.020	--	0.044	--		1
Bromomethane	ND	0.020	--	0.078	--		1
Chloroethane	ND	0.100	--	0.264	--		1
Acetone	ND	2.00	--	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	0.281	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	0.079	--		1
Methylene chloride	ND	0.500	--	1.74	--		1
Freon-113	ND	0.050	--	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	0.721	--		1
2-Butanone	ND	0.500	--	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
Chloroform	ND	0.020	--	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	0.109	--		1
Benzene	ND	0.100	--	0.319	--		1
Carbon tetrachloride	ND	0.020	--	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	0.092	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

**Air Canister Certification Results**

Lab ID: L1830985-09 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2641 FC 0733 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Bromodichloromethane	ND	0.020	--	ND	0.134	--	1
1,4-Dioxane	ND	0.100	--	ND	0.360	--	1
Trichloroethene	ND	0.020	--	ND	0.107	--	1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--	1
Toluene	ND	0.050	--	ND	0.188	--	1
Dibromochloromethane	ND	0.020	--	ND	0.170	--	1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--	1
Tetrachloroethene	ND	0.020	--	ND	0.136	--	1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
Chlorobenzene	ND	0.100	--	ND	0.461	--	1
Ethylbenzene	ND	0.020	--	ND	0.087	--	1
p/m-Xylene	ND	0.040	--	ND	0.174	--	1
Bromoform	ND	0.020	--	ND	0.207	--	1
Styrene	ND	0.020	--	ND	0.085	--	1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
o-Xylene	ND	0.020	--	ND	0.087	--	1
Isopropylbenzene	ND	0.500	--	ND	0.983	--	1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
sec-Butylbenzene	ND	0.500	--	ND	1.10	--	1
p-Isopropyltoluene	ND	0.500	--	ND	1.10	--	1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-09 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2641 FC 0733 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
n-Butylbenzene	ND	0.500	--	ND	1.10	--	1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Naphthalene	ND	0.050	--	ND	0.262	--	1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	107		60-140
bromochloromethane	109		60-140
chlorobenzene-d5	108		60-140

Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-10	Date Collected:	08/08/18 08:00
Client ID:	CAN 2634 FC 01033	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 08/09/18 22:21  
 Analyst: MB

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

**Air Canister Certification Results**

Lab ID: L1830985-10 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2634 FC 01033 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-10 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2634 FC 01033 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-10 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2634 FC 01033 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-10      Date Collected: 08/08/18 08:00  
 Client ID: CAN 2634 FC 01033      Date Received: 08/09/18  
 Sample Location:      Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Dilution Factor
	Results	RL	MDL	Results	RL	MDL	Qualifier
Volatile Organics in Air - Mansfield Lab							

Results	Qualifier	Units	RDL	Dilution Factor
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Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	115		60-140
Bromochloromethane	115		60-140
chlorobenzene-d5	113		60-140



**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-10	Date Collected:	08/08/18 08:00
Client ID:	CAN 2634 FC 01033	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix:	Air
Anaytical Method:	48,TO-15-SIM
Analytical Date:	08/09/18 22:21
Analyst:	MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.500	--	0.500	--		1
Freon-114	ND	0.050	--	0.349	--		1
Vinyl chloride	ND	0.020	--	0.051	--		1
1,3-Butadiene	ND	0.020	--	0.044	--		1
Bromomethane	ND	0.020	--	0.078	--		1
Chloroethane	ND	0.100	--	0.264	--		1
Acetone	ND	2.00	--	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	0.281	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	0.079	--		1
Methylene chloride	ND	0.500	--	1.74	--		1
Freon-113	ND	0.050	--	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	0.721	--		1
2-Butanone	ND	0.500	--	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
Chloroform	ND	0.020	--	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	0.109	--		1
Benzene	0.102	0.100	--	0.326	0.319	--	1
Carbon tetrachloride	ND	0.020	--	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	0.092	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

**Air Canister Certification Results**

Lab ID: L1830985-10 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2634 FC 01033 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	Results	RL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Bromodichloromethane	ND	0.020	--	ND	0.134	--	1
1,4-Dioxane	ND	0.100	--	ND	0.360	--	1
Trichloroethene	ND	0.020	--	ND	0.107	--	1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--	1
Toluene	ND	0.050	--	ND	0.188	--	1
Dibromochloromethane	ND	0.020	--	ND	0.170	--	1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--	1
Tetrachloroethene	ND	0.020	--	ND	0.136	--	1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
Chlorobenzene	ND	0.100	--	ND	0.461	--	1
Ethylbenzene	ND	0.020	--	ND	0.087	--	1
p/m-Xylene	ND	0.040	--	ND	0.174	--	1
Bromoform	ND	0.020	--	ND	0.207	--	1
Styrene	ND	0.020	--	ND	0.085	--	1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
o-Xylene	ND	0.020	--	ND	0.087	--	1
Isopropylbenzene	ND	0.500	--	ND	0.983	--	1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
sec-Butylbenzene	ND	0.500	--	ND	1.10	--	1
p-Isopropyltoluene	ND	0.500	--	ND	1.10	--	1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-10 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2634 FC 01033 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
n-Butylbenzene	ND	0.500	--	ND	1.10	--	1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Naphthalene	ND	0.050	--	ND	0.262	--	1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	107		60-140
bromochloromethane	108		60-140
chlorobenzene-d5	108		60-140

Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-11	Date Collected:	08/08/18 08:00
Client ID:	CAN 2635 FC 0702	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 08/09/18 23:00  
 Analyst: MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>							
Chlorodifluoromethane	ND	0.200	--	0.707	--		1
Propylene	ND	0.500	--	0.861	--		1
Propane	ND	0.500	--	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.200	--	0.413	--		1
Freon-114	ND	0.200	--	1.40	--		1
Methanol	ND	5.00	--	6.55	--		1
Vinyl chloride	ND	0.200	--	0.511	--		1
1,3-Butadiene	ND	0.200	--	0.442	--		1
Butane	ND	0.200	--	0.475	--		1
Bromomethane	ND	0.200	--	0.777	--		1
Chloroethane	ND	0.200	--	0.528	--		1
Ethanol	ND	5.00	--	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	0.842	--		1
Vinyl bromide	ND	0.200	--	0.874	--		1
Acrolein	ND	0.500	--	1.15	--		1
Acetone	ND	1.00	--	2.38	--		1
Acetonitrile	ND	0.200	--	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	1.12	--		1
Isopropanol	ND	0.500	--	1.23	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
Pentane	ND	0.200	--	0.590	--		1
Ethyl ether	ND	0.200	--	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	0.793	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-11 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2635 FC 0702 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1



**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-11	Date Collected:	08/08/18 08:00
Client ID:	CAN 2635 FC 0702	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

**Air Canister Certification Results**

Lab ID:	L1830985-11	Date Collected:	08/08/18 08:00
Client ID:	CAN 2635 FC 0702	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-11 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2635 FC 0702 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Dilution Factor
	Results	RL	MDL	Results	RL	MDL	Qualifier
Volatile Organics in Air - Mansfield Lab							

	Results	Qualifier	Units	RDL	
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Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	116		60-140
Bromochloromethane	116		60-140
chlorobenzene-d5	113		60-140

**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-11	Date Collected:	08/08/18 08:00
Client ID:	CAN 2635 FC 0702	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix:	Air
Anaytical Method:	48,TO-15-SIM
Analytical Date:	08/09/18 23:00
Analyst:	MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.500	--	0.500	--		1
Freon-114	ND	0.050	--	0.349	--		1
Vinyl chloride	ND	0.020	--	0.051	--		1
1,3-Butadiene	ND	0.020	--	0.044	--		1
Bromomethane	ND	0.020	--	0.078	--		1
Chloroethane	ND	0.100	--	0.264	--		1
Acetone	ND	2.00	--	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	0.281	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	0.079	--		1
Methylene chloride	ND	0.500	--	1.74	--		1
Freon-113	ND	0.050	--	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	0.721	--		1
2-Butanone	ND	0.500	--	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
Chloroform	ND	0.020	--	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	0.109	--		1
Benzene	ND	0.100	--	0.319	--		1
Carbon tetrachloride	ND	0.020	--	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	0.092	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

**Air Canister Certification Results**

Lab ID: L1830985-11 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2635 FC 0702 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	Results	RL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Bromodichloromethane	ND	0.020	--	ND	0.134	--	1
1,4-Dioxane	ND	0.100	--	ND	0.360	--	1
Trichloroethene	ND	0.020	--	ND	0.107	--	1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--	1
Toluene	ND	0.050	--	ND	0.188	--	1
Dibromochloromethane	ND	0.020	--	ND	0.170	--	1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--	1
Tetrachloroethene	ND	0.020	--	ND	0.136	--	1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
Chlorobenzene	ND	0.100	--	ND	0.461	--	1
Ethylbenzene	ND	0.020	--	ND	0.087	--	1
p/m-Xylene	ND	0.040	--	ND	0.174	--	1
Bromoform	ND	0.020	--	ND	0.207	--	1
Styrene	ND	0.020	--	ND	0.085	--	1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
o-Xylene	ND	0.020	--	ND	0.087	--	1
Isopropylbenzene	ND	0.500	--	ND	0.983	--	1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
sec-Butylbenzene	ND	0.500	--	ND	1.10	--	1
p-Isopropyltoluene	ND	0.500	--	ND	1.10	--	1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-11 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2635 FC 0702 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
n-Butylbenzene	ND	0.500	--	ND	1.10	--	1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Naphthalene	ND	0.050	--	ND	0.262	--	1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	106		60-140
bromochloromethane	109		60-140
chlorobenzene-d5	108		60-140

Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

**Air Canister Certification Results**

Lab ID:	L1830985-12	Date Collected:	08/08/18 08:00
Client ID:	CAN 2636 FC 01034	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix:	Air
Anaytical Method:	48,TO-15
Analytical Date:	08/09/18 23:38
Analyst:	MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>							
Chlorodifluoromethane	ND	0.200	--	0.707	--		1
Propylene	ND	0.500	--	0.861	--		1
Propane	ND	0.500	--	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.200	--	0.413	--		1
Freon-114	ND	0.200	--	1.40	--		1
Methanol	ND	5.00	--	6.55	--		1
Vinyl chloride	ND	0.200	--	0.511	--		1
1,3-Butadiene	ND	0.200	--	0.442	--		1
Butane	ND	0.200	--	0.475	--		1
Bromomethane	ND	0.200	--	0.777	--		1
Chloroethane	ND	0.200	--	0.528	--		1
Ethanol	ND	5.00	--	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	0.842	--		1
Vinyl bromide	ND	0.200	--	0.874	--		1
Acrolein	ND	0.500	--	1.15	--		1
Acetone	ND	1.00	--	2.38	--		1
Acetonitrile	ND	0.200	--	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	1.12	--		1
Isopropanol	ND	0.500	--	1.23	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
Pentane	ND	0.200	--	0.590	--		1
Ethyl ether	ND	0.200	--	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	0.793	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-12 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2636 FC 01034 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-12 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2636 FC 01034 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

**Air Canister Certification Results**

Lab ID:	L1830985-12	Date Collected:	08/08/18 08:00
Client ID:	CAN 2636 FC 01034	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-12      Date Collected: 08/08/18 08:00  
 Client ID: CAN 2636 FC 01034      Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Dilution Factor
	Results	RL	MDL	Results	RL	MDL	Qualifier
Volatile Organics in Air - Mansfield Lab							

Results	Qualifier	Units	RDL	Dilution Factor
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Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	92		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	95		60-140

**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-12	Date Collected:	08/08/18 08:00
Client ID:	CAN 2636 FC 01034	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
Analytical Method: 48,TO-15-SIM  
Analytical Date: 08/09/18 23:38  
Analyst: MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.500	--	0.500	--		1
Freon-114	ND	0.050	--	0.349	--		1
Vinyl chloride	ND	0.020	--	0.051	--		1
1,3-Butadiene	ND	0.020	--	0.044	--		1
Bromomethane	ND	0.020	--	0.078	--		1
Chloroethane	ND	0.100	--	0.264	--		1
Acetone	ND	2.00	--	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	0.281	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	0.079	--		1
Methylene chloride	ND	0.500	--	1.74	--		1
Freon-113	ND	0.050	--	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	0.721	--		1
2-Butanone	ND	0.500	--	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
Chloroform	ND	0.020	--	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	0.109	--		1
Benzene	ND	0.100	--	0.319	--		1
Carbon tetrachloride	ND	0.020	--	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	0.092	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

**Air Canister Certification Results**

Lab ID: L1830985-12 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2636 FC 01034 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Bromodichloromethane	ND	0.020	--	ND	0.134	--	1
1,4-Dioxane	ND	0.100	--	ND	0.360	--	1
Trichloroethene	ND	0.020	--	ND	0.107	--	1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--	1
Toluene	ND	0.050	--	ND	0.188	--	1
Dibromochloromethane	ND	0.020	--	ND	0.170	--	1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--	1
Tetrachloroethene	ND	0.020	--	ND	0.136	--	1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
Chlorobenzene	ND	0.100	--	ND	0.461	--	1
Ethylbenzene	ND	0.020	--	ND	0.087	--	1
p/m-Xylene	ND	0.040	--	ND	0.174	--	1
Bromoform	ND	0.020	--	ND	0.207	--	1
Styrene	ND	0.020	--	ND	0.085	--	1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
o-Xylene	ND	0.020	--	ND	0.087	--	1
Isopropylbenzene	ND	0.500	--	ND	0.983	--	1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
sec-Butylbenzene	ND	0.500	--	ND	1.10	--	1
p-Isopropyltoluene	ND	0.500	--	ND	1.10	--	1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-12 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2636 FC 01034 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
n-Butylbenzene	ND	0.500	--	ND	1.10	--	1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Naphthalene	ND	0.050	--	ND	0.262	--	1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	84		60-140
bromochloromethane	84		60-140
chlorobenzene-d5	87		60-140

Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-13	Date Collected:	08/08/18 08:00
Client ID:	CAN 2633 FC 0975	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 08/10/18 00:16  
 Analyst: MB

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1



**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-13 Date Collected: 08/08/18 08:00  
Client ID: CAN 2633 FC 0975 Date Received: 08/09/18  
Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1



**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-13 Date Collected: 08/08/18 08:00  
Client ID: CAN 2633 FC 0975 Date Received: 08/09/18  
Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-13 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2633 FC 0975 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-13 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2633 FC 0975 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Dilution Factor
	Results	RL	MDL	Results	RL	MDL	Qualifier
Volatile Organics in Air - Mansfield Lab							

	Results	Qualifier	Units	RDL	
--	---------	-----------	-------	-----	--

Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	107		60-140
Bromochloromethane	108		60-140
chlorobenzene-d5	106		60-140



**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-13	Date Collected:	08/08/18 08:00
Client ID:	CAN 2633 FC 0975	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix:	Air
Anaytical Method:	48,TO-15-SIM
Analytical Date:	08/10/18 00:16
Analyst:	MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.500	--	0.500	--		1
Freon-114	ND	0.050	--	0.349	--		1
Vinyl chloride	ND	0.020	--	0.051	--		1
1,3-Butadiene	ND	0.020	--	0.044	--		1
Bromomethane	ND	0.020	--	0.078	--		1
Chloroethane	ND	0.100	--	0.264	--		1
Acetone	ND	2.00	--	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	0.281	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	0.079	--		1
Methylene chloride	ND	0.500	--	1.74	--		1
Freon-113	ND	0.050	--	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	0.721	--		1
2-Butanone	ND	0.500	--	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
Chloroform	ND	0.020	--	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	0.109	--		1
Benzene	ND	0.100	--	0.319	--		1
Carbon tetrachloride	ND	0.020	--	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	0.092	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

**Air Canister Certification Results**

Lab ID: L1830985-13 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2633 FC 0975 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	Results	RL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Bromodichloromethane	ND	0.020	--	ND	0.134	--	1
1,4-Dioxane	ND	0.100	--	ND	0.360	--	1
Trichloroethene	ND	0.020	--	ND	0.107	--	1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--	1
Toluene	ND	0.050	--	ND	0.188	--	1
Dibromochloromethane	ND	0.020	--	ND	0.170	--	1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--	1
Tetrachloroethene	ND	0.020	--	ND	0.136	--	1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
Chlorobenzene	ND	0.100	--	ND	0.461	--	1
Ethylbenzene	ND	0.020	--	ND	0.087	--	1
p/m-Xylene	ND	0.040	--	ND	0.174	--	1
Bromoform	ND	0.020	--	ND	0.207	--	1
Styrene	ND	0.020	--	ND	0.085	--	1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
o-Xylene	ND	0.020	--	ND	0.087	--	1
Isopropylbenzene	ND	0.500	--	ND	0.983	--	1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
sec-Butylbenzene	ND	0.500	--	ND	1.10	--	1
p-Isopropyltoluene	ND	0.500	--	ND	1.10	--	1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-13 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2633 FC 0975 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
n-Butylbenzene	ND	0.500	--	ND	1.10	--	1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Naphthalene	ND	0.050	--	ND	0.262	--	1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	98		60-140
bromochloromethane	99		60-140
chlorobenzene-d5	99		60-140

**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-15	Date Collected:	08/08/18 08:00
Client ID:	CAN 2604 FC 0841	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 08/10/18 01:32  
 Analyst: MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>							
Chlorodifluoromethane	ND	0.200	--	0.707	--		1
Propylene	ND	0.500	--	0.861	--		1
Propane	ND	0.500	--	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.200	--	0.413	--		1
Freon-114	ND	0.200	--	1.40	--		1
Methanol	ND	5.00	--	6.55	--		1
Vinyl chloride	ND	0.200	--	0.511	--		1
1,3-Butadiene	ND	0.200	--	0.442	--		1
Butane	ND	0.200	--	0.475	--		1
Bromomethane	ND	0.200	--	0.777	--		1
Chloroethane	ND	0.200	--	0.528	--		1
Ethanol	ND	5.00	--	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	0.842	--		1
Vinyl bromide	ND	0.200	--	0.874	--		1
Acrolein	ND	0.500	--	1.15	--		1
Acetone	ND	1.00	--	2.38	--		1
Acetonitrile	ND	0.200	--	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	1.12	--		1
Isopropanol	ND	0.500	--	1.23	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
Pentane	ND	0.200	--	0.590	--		1
Ethyl ether	ND	0.200	--	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	0.793	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-15 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2604 FC 0841 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-15 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2604 FC 0841 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

**Air Canister Certification Results**

Lab ID: L1830985-15 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2604 FC 0841 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
<b>Volatile Organics in Air - Mansfield Lab</b>								
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-15      Date Collected: 08/08/18 08:00  
 Client ID: CAN 2604 FC 0841      Date Received: 08/09/18  
 Sample Location:      Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Dilution Factor
	Results	RL	MDL	Results	RL	MDL	Qualifier
Volatile Organics in Air - Mansfield Lab							

Results	Qualifier	Units	RDL	Dilution Factor
---------	-----------	-------	-----	-----------------

Tentatively Identified Compounds

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	115		60-140
Bromochloromethane	116		60-140
chlorobenzene-d5	114		60-140



**Project Name:** INDIV. CANISTER CERTIFICATION  
**Project Number:** CANISTER QC INDIV

**Lab Number:** L1830985  
**Report Date:** 08/28/18

## Air Canister Certification Results

Lab ID:	L1830985-15	Date Collected:	08/08/18 08:00
Client ID:	CAN 2604 FC 0841	Date Received:	08/09/18
Sample Location:		Field Prep:	Not Specified

Sample Depth:

Matrix:	Air
Anaytical Method:	48,TO-15-SIM
Analytical Date:	08/10/18 01:32
Analyst:	MB

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Dichlorodifluoromethane	ND	0.200	--	0.989	--		1
Chloromethane	ND	0.500	--	0.500	--		1
Freon-114	ND	0.050	--	0.349	--		1
Vinyl chloride	ND	0.020	--	0.051	--		1
1,3-Butadiene	ND	0.020	--	0.044	--		1
Bromomethane	ND	0.020	--	0.078	--		1
Chloroethane	ND	0.100	--	0.264	--		1
Acetone	ND	2.00	--	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	0.281	--		1
Acrylonitrile	ND	0.500	--	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	0.079	--		1
Methylene chloride	ND	0.500	--	1.74	--		1
Freon-113	ND	0.050	--	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	0.721	--		1
2-Butanone	ND	0.500	--	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	0.079	--		1
Chloroform	ND	0.020	--	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	0.109	--		1
Benzene	ND	0.100	--	0.319	--		1
Carbon tetrachloride	ND	0.020	--	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	0.092	--		1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-15 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2604 FC 0841 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
Bromodichloromethane	ND	0.020	--	ND	0.134	--	1
1,4-Dioxane	ND	0.100	--	ND	0.360	--	1
Trichloroethene	ND	0.020	--	ND	0.107	--	1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--	1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--	1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--	1
Toluene	ND	0.050	--	ND	0.188	--	1
Dibromochloromethane	ND	0.020	--	ND	0.170	--	1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--	1
Tetrachloroethene	ND	0.020	--	ND	0.136	--	1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
Chlorobenzene	ND	0.100	--	ND	0.461	--	1
Ethylbenzene	ND	0.020	--	ND	0.087	--	1
p/m-Xylene	ND	0.040	--	ND	0.174	--	1
Bromoform	ND	0.020	--	ND	0.207	--	1
Styrene	ND	0.020	--	ND	0.085	--	1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--	1
o-Xylene	ND	0.020	--	ND	0.087	--	1
Isopropylbenzene	ND	0.500	--	ND	0.983	--	1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--	1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1
sec-Butylbenzene	ND	0.500	--	ND	1.10	--	1
p-Isopropyltoluene	ND	0.500	--	ND	1.10	--	1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--	1



Project Name: INDIV. CANISTER CERTIFICATION

Lab Number: L1830985

Project Number: CANISTER QC INDIV

Report Date: 08/28/18

## Air Canister Certification Results

Lab ID: L1830985-15 Date Collected: 08/08/18 08:00  
 Client ID: CAN 2604 FC 0841 Date Received: 08/09/18  
 Sample Location: Field Prep: Not Specified

Sample Depth:

Parameter	Results	ppbV		ug/m3		Qualifier	Dilution Factor
		RL	MDL	RL	MDL		
<b>Volatile Organics in Air by SIM - Mansfield Lab</b>							
n-Butylbenzene	ND	0.500	--	ND	1.10	--	1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Naphthalene	ND	0.050	--	ND	0.262	--	1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--	1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	106		60-140
bromochloromethane	108		60-140
chlorobenzene-d5	108		60-140

**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

Serial\_No:08281816:07  
**Lab Number:** L1832614  
**Report Date:** 08/28/18

### **Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

#### **Cooler Information**

<b>Cooler</b>	<b>Custody Seal</b>
N/A	Absent

#### **Container Information**

<b>Container ID</b>	<b>Container Type</b>	<b>Cooler</b>	<b>Initial pH</b>	<b>Final pH</b>	<b>Temp deg C</b>	<b>Pres</b>	<b>Seal</b>	<b>Frozen Date/Time</b>	<b>Analysis(*)</b>
L1832614-01A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-SIM(30)
L1832614-02A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-SIM(30)
L1832614-03A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-SIM(30)
L1832614-04A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-SIM(30)
L1832614-05A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-SIM(30)
L1832614-06A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-SIM(30)
L1832614-07A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-SIM(30)
L1832614-08A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-SIM(30)
L1832614-09A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-SIM(30)
L1832614-10A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-SIM(30)
L1832614-11A	Canister - 6 Liter	N/A	NA			Y	Absent		TO15-SIM(30)
L1832614-12A	Canister - 6 Liter	N/A	NA			Y	Absent		CLEAN-FEE()

\*Values in parentheses indicate holding time in days

**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
**Report Date:** 08/28/18

## GLOSSARY

### **Acronyms**

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

### **Footnotes**

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### **Terms**

- Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.
- Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.
- Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.
- Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.
- Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

**Report Format:** Data Usability Report



**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
**Report Date:** 08/28/18

**Data Qualifiers**

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedances are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

*Report Format:* Data Usability Report



**Project Name:** DOW HANGING ROCK  
**Project Number:** 693874.CI.FD

**Lab Number:** L1832614  
**Report Date:** 08/28/18

## REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at its own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

**Westborough Facility**

EPA 624: m/p-xylene, o-xylene

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 300: DW: Bromide

EPA 6860: SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**Mansfield Facility**

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

**Westborough Facility:**

**Drinking Water**

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO<sub>3</sub>-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.

**Non-Potable Water**

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO<sub>3</sub>-F, EPA 353.2: Nitrate-N, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO<sub>4</sub>-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT, Enterolert-QT, SM9221E, SM9222D.

**Mansfield Facility:**

**Drinking Water**

EPA 200.7: Al, Ba, Be, Cd, Cr, Cu, Mn, Ni, Na, Ag, Ca, Zn. EPA 200.8: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. EPA 245.1 Hg. EPA 522.

**Non-Potable Water**

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



## CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048  
TEL: 508-822-9300 FAX: 508-822-3288

## Client Information

Client: CH2MHILL

Address:

Phone: 513 673-2201

Fax:

Email: marie.chillier@Jacobs.com

 These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: 

## All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION				Sample Matrix*	Sampler's Initials	Can Size	ID - Flow Controller	TO-15	TO-15 SIM	APH	Sulfur Non-petroleum Hg	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
		End Date	Start Time	End Time	Initial Vacuum											
324614.01	SPI-B505-IA07-081518	8/15/18	1356	2105	-29.53	-6.61	AA	BI	GL	2626	0920	X				
.02	SPI-B505-IA12-081518	8/15/18	1357	2106	-29.63	-7.69	AA	BI	GL	2624	0964	X				
.03	SPI-B505-IA08-081518	8/15/18	1358	2107	-29.57	-6.83	AA	BI	GL	2641	0733	X				
.04	SPI-B505-IA09-081518	8/15/18	1359	2113	-29.30	-7.90	AA	BI	GL	2634	1033	X				
.05	SPI-B505-IA10-081518	8/15/18	1402	2114	-29.33	-10.03	AA	BI	GL	2633	0975	X				
.06	SPI-B505-JA11-081518	8/15/18	1403	2116	-29.64	-9.20	AA	BI	GL	2640	0749	X				
.07	SPI-B505-FD01-081518	8/15/18	1403	2116	-29.39	-7.81	AA	BI	GL	2638	0168	X				
.08	SPI-B505-IA06-081518	8/15/18	1405	2118	-30.07	-9.79	AA	BI	GL	2635	0702	X				
.09	SPI-B505-IA13-081518	8/15/18	1407	2125	-29.13	-6.84	AA	BI	GL	2604	0841	X				
.10	SPI-B505-IA14-081518	8/15/18	1408	2126	-30.49	-9.02	AA	BI	GL	2628	0367	X				

AA = Ambient Air (Indoor/Outdoor)

SV = Soil Vapor/Landfill Gas/SVE

Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

\*SAMPLE MATRIX CODES

Relinquished By:

  
FedEx

Date/Time

 8/17/18 11:00  
 8-20-18 9:22 AM

Received By:

  
Clark Clark ATL

Date/Time:

8-20-18 9:22 AM



# AIR ANALYSIS

**CHAIN OF CUSTODY**

320 Forbes Blvd, Mansfield, MA 02048  
TEL: 508-822-9300 FAX: 508-822-3288

**Client Information**

Client: CH2M HILL

Address: 1 Newmann Way  
Cincinnati, OH 45215

Phone: 513-673-2201

Fax:

Email: marie.chillor@jrcbs.com

 These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: 

PAGE 2 OF 2

Date Rec'd in Lab: 8/20/18

ALPHA Job #: L832614

Project Information		Report Information - Data Deliverables		Billing Information	
Project Name: Hanging Rock	Project Location: Ironmen, OH	<input type="checkbox"/> FAX	<input type="checkbox"/> ADEX	<input type="checkbox"/> Same as Client Info	PO #:
Project #:		Criteria Checker: (Default based on Regulatory Criteria Indicated)			
Project Manager: Marie Chiller	ALPHA Quote #: 271875	Other Formats:			
Turn-Around Time		<input type="checkbox"/> EMAIL (standard pdf report)			
<input checked="" type="checkbox"/> Standard <input type="checkbox"/> RUSH (only confirmed if pre-approved)		<input type="checkbox"/> Additional Deliverables:			
Date Due:		Time:		Report to: (if different than Project Manager)	

**Regulatory Requirements/Report Limits**

State/Fed	Program	Res / Comm

**ANALYSIS**

<input checked="" type="checkbox"/> TO-15	<input type="checkbox"/> TO-15 SIM	<input type="checkbox"/> AP4	<input type="checkbox"/> Rotametric Non-Potassium HCl
		<input type="checkbox"/> Fixed Gases	
			<input type="checkbox"/> Sulfides & Mercaptans by TO-15

Sample Comments (i.e. PID)

**All Columns Below Must Be Filled Out**

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION				Sample Matrix*	Sampler's Initials	Can Size	ID Can	ID - Flow Controller	TO-15	TO-15 SIM	AP4	Rotametric Non-Potassium HCl	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
		End Date	Start Time	End Time	Vacuum												
326014.01	SOI-HGR-0A03-081518	9/15/18	14:16	2131	-27.32	-10.25	AA	BL	6L	2637 0543	X						

**\*SAMPLE MATRIX CODES**

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:

Date/Time:

Received By:

Date/Time:

8/17/18 11:00

FedEx

8/20/18 9:22

FedEx

8/20/18 9:22 AM